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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBIN ALEXIS TAKASUGI and STEWART R. WYATT

Appeal 2009-004216
Application 10/672,975
Technology Center 2100

Before MARC S. HOFF, CAROLYN D. THOMAS, and ELENI MANTIS
MERCADER, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1-30. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

According to Appellants, the invention relates to “data storage devices, and more particularly to a prefetch controller for controlling retrieval of data from a data storage device” (Spec. 1:5-7).

Claim 1 is illustrative:

1. A prefetch controller for controlling retrieval of data from a data storage device in response to a current host command received from a host device, the prefetch controller comprising:

a sequential read detector configured to generate a new sequential read indication for the current host command if the current host command and a previously received host command specify read operations that are non-sequential;

a transfer length generator configured to provide a first transfer length value to the data storage device if the new sequential read indication is generated for the current host command, thereby requesting data specified by the current host command and prefetch data, and provide a second transfer length value to the data storage device if the new sequential read indication is not generated for the current host command; and

wherein the first transfer length value is determined by adding a prefetch value to a transfer length value specified in the current host command.

Rejections

Claims 1-30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hicken (US 6,092,149, Jul. 18, 2000).

FINDINGS OF FACT (FF)

Hicken Reference

1. Figure 1C of Hicken discloses steps 106 and 122 (corresponding to a scan of the cache) and steps 116, 130, and 134 (corresponding to a seek), which occur before step 126 that corresponds to computing a prefetch (see Fig. 3).

2. Hicken discloses:

The method checks in step 754 to see if there is a partial hit in the prefetch and whether or not the prefetch from a previous command will fetch a higher LBA [logical block address] address than the current command. If this condition is true, the method proceeds to step 756 to adjust the prefetch length, pref, to accommodate the data already requested.

(col. 30, ll. 39-44).

PRINCIPLES OF LAW

Anticipation

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992)).

ANALYSIS

Claims 1-30

Issue: Did the Examiner err in finding that Hicken teaches wherein the first transfer length value is determined by adding a prefetch value to a transfer length value specified in the current host command, as set forth in claim 1?

The Examiner finds that requested data and prefetch data are retrieved from the disk drive at the same time rather than separately (Ans. 16).

Appellants argue that “Hicken does not teach or suggest adding a prefetch value to a transfer length value specified in a current read command, and then providing this sum to a data storage device, as recited in claim 1” (App. Br. 7).

The Examiner finds that, in Hicken, “[s]ince the caching system divides the cache memory into segments to store multiple streams of data and each segment is transferred as a unit [abstract][,] [t]his provides another piece of evidence that the length of data to be transferred, as a segment, is the sum of the length of the ‘requested data’ and the length of the ‘prefetched data.’” (Ans. 15.) We disagree with the Examiner.

While the Examiner has directed our attention to multiple figures, for example, FIGS. 1C, 1D, and 1F, as evidence that the length of data to be transferred is the sum of the length of “requested data” and the length of the “prefetched data” (Ans. 14-15), we find that the Examiner has not shown,

beyond speculation, that the transfer length value is determined by adding a prefetch value to a transfer value specified in the current host command.

Instead, it appears that FIG. 1C illustrates that a seek or scan process, based on an incoming command, is processed before a prefetch is computed (FF 1). Thus, FIG. 1C does not explicitly disclose that a single transfer value is utilized to request both (1) the data to be transferred based on the transfer value in the current host command and (2) the data to be transferred based on the prefetch data (*i.e.*, the prefetch value). Further, while the transferred data as shown for example in FIGS. 1D and 1F of Hicken may include both the requested data and the prefetch data, Hicken fails to explicitly disclose, beyond speculation, that the requested data and prefetch data were obtained from the current host command.

Thus, neither the Examiner nor the cited portions of Hicken clearly explain how a first transfer length value is determined by adding a prefetch value to a transfer length value. Without more of an explanation from the Examiner to correlate the teachings of Hicken to the claimed “first transfer length value,” we are left to speculate as to how the cited portions of Hicken correspond to the above-noted limitation.

The difficulty that we have with the anticipation rejection before us is that there is no certainty from the Hicken reference that the transfer length value is determined by an addition function as claimed. The cited portions of Hicken are, for example, directed towards (1) data that has already been transferred that includes “requested data” and “prefetch data” and (2) determining a prefetch value, and not to generating a transfer length value

that is determined by adding a prefetch value to a transfer length value specified in the current host command.

Therefore, we find the Examiner has *not* set forth a sufficient showing of anticipation, and we find that Appellants have shown error in the Examiner's rejection of representative claim 1. Independent claims 12, 17, and 20 are commensurate in scope with the limitation argued in representative claim 1, as each recites a transfer length value that is generated by adding a prefetch length value to a transfer length value of a current command (App. Br. 20-23, Claims App'x). Accordingly, we reverse the Examiner's rejection of independent claims 1, 12, 17, and 20, and claims 2-11, 13-16, 18-19, and 21-30, which stand therewith.

DECISION

The Examiner's rejection of claims 1-30 under 35 U.S.C. § 102(b) as being anticipated by Hicken is reversed.

REVERSED

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